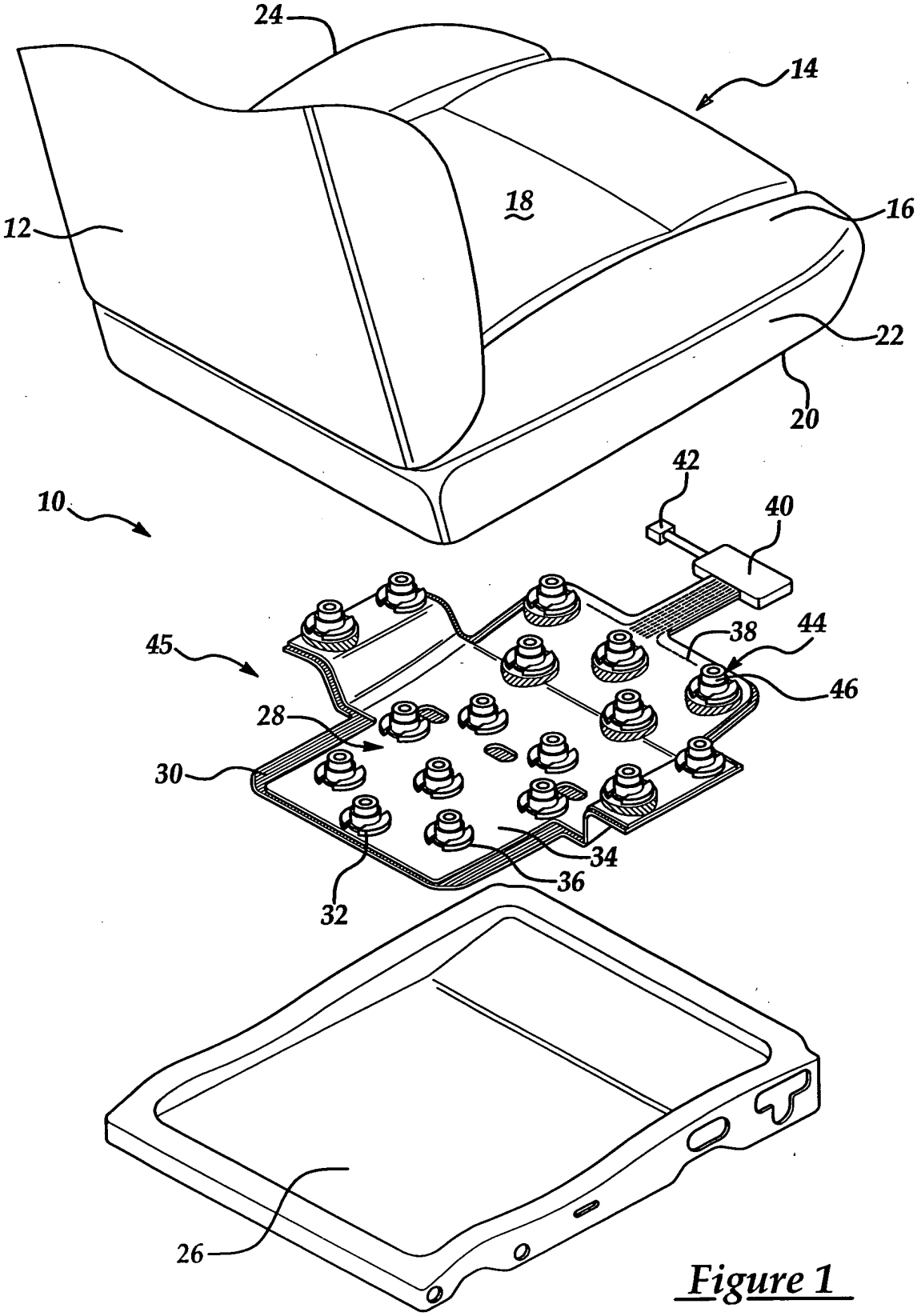

Figure 1

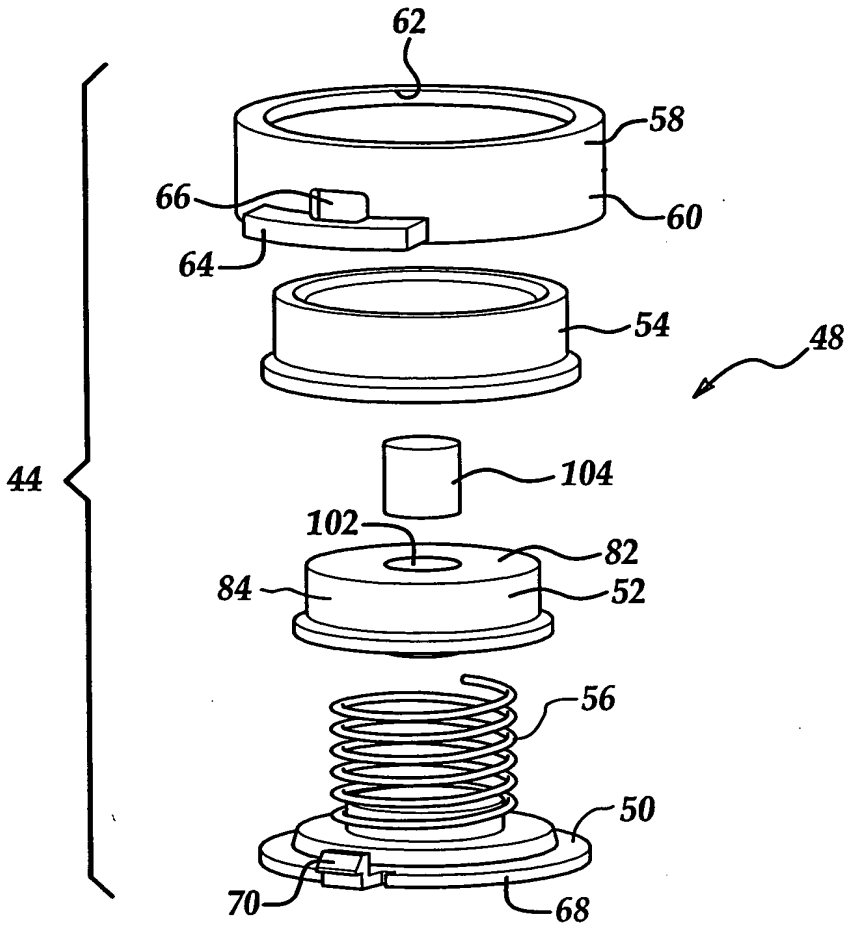

Figure 2

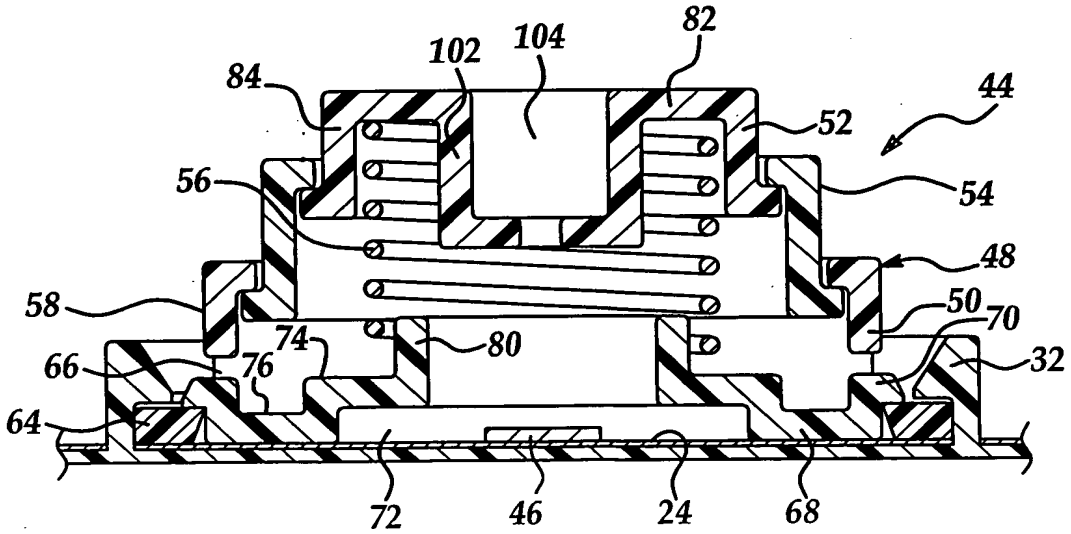

Figure 3

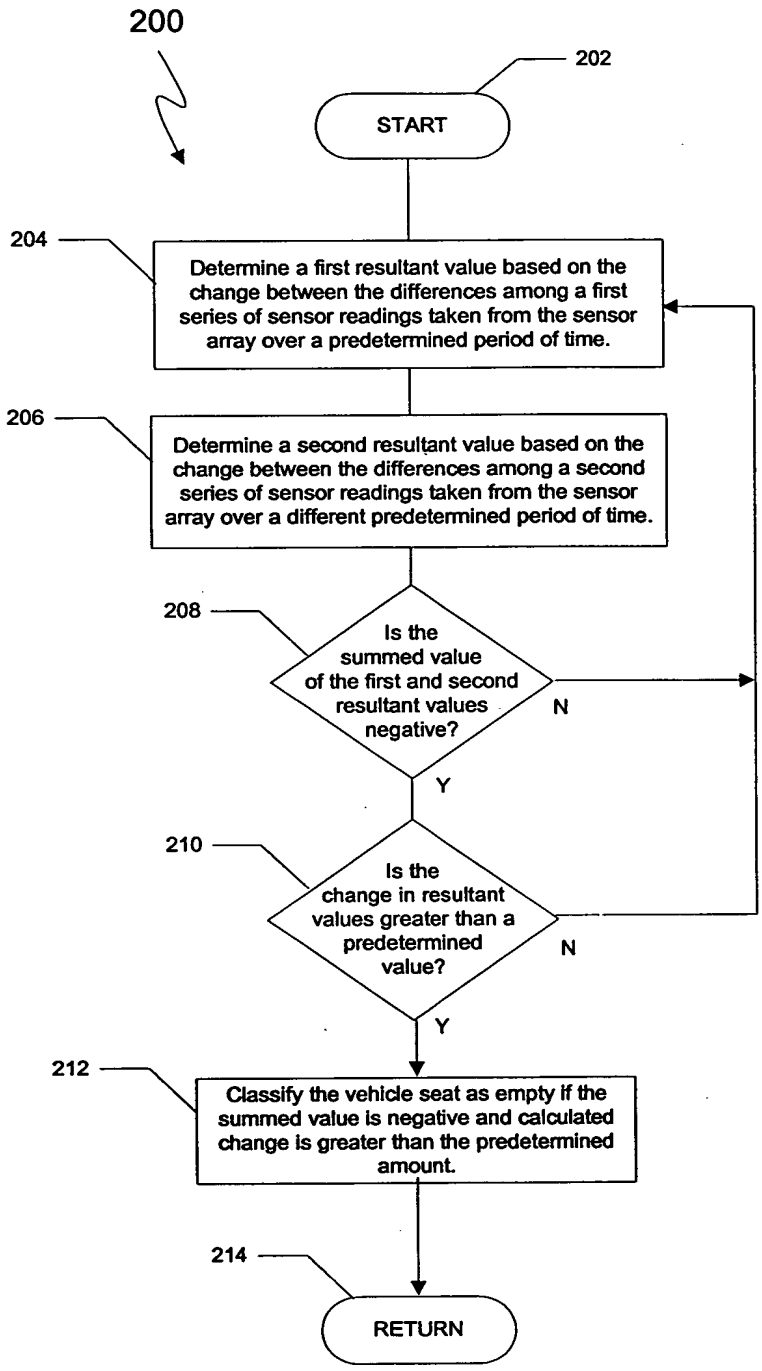
200
202
START
204
Determine a first resultant value based on the change between the differences among a first series of sensor readings taken from the sensor array over a predetermined period of time.
206
Determine a second resultant value based on the change between the differences among a second series of sensor readings taken from the sensor array over a different predetermined period of time.
208
Is the summed value of the first and second resultant values negative?
N
Y
210
Is the change in resultant values greater than a predetermined value?
N
Y
212
Classify the vehicle seat as empty if the summed value is negative and calculated change is greater than the predetermined amount.
214
RETURN

Figure 4

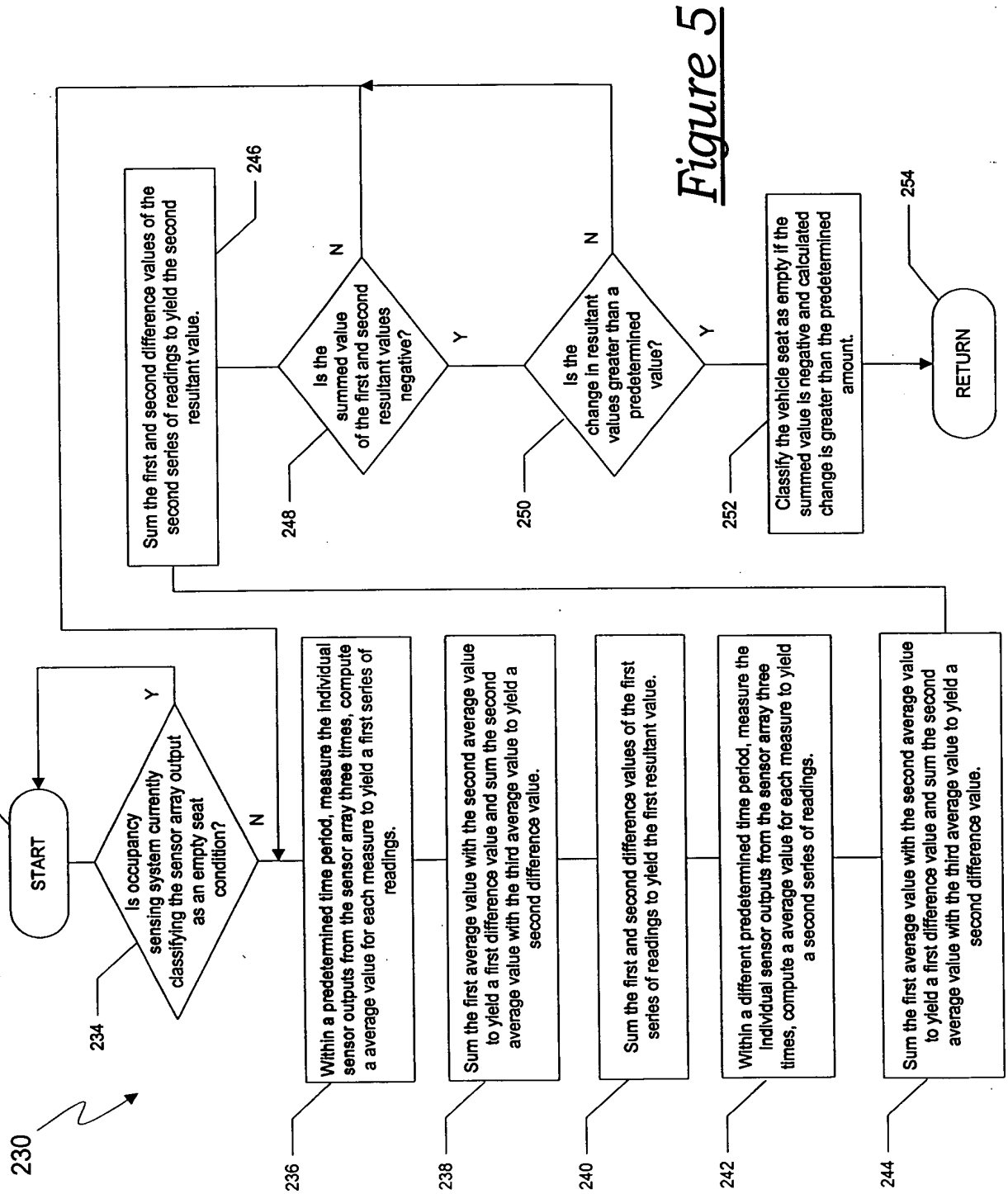
230
232
START
234
Is occupancy sensing system currently classifying the sensor array output as an empty seat condition?
Y
N
236
Within a predetermined time period, measure the individual sensor outputs from the sensor array three times, compute a average value for each measure to yield a first series of readings.
238
Sum the first average value with the second average value to yield a first difference value and sum the second average value with the third average value to yield a second difference value.
240
Sum the first and second difference values of the first series of readings to yield the first resultant value.
242
Within a different predetermined time period, measure the individual sensor outputs from the sensor array three times, compute a average value for each measure to yield a second series of readings.
244
Sum the first average value with the second average value to yield a first difference value and sum the second average value with the third average value to yield a second difference value.
246
Sum the first and second difference values of the second series of readings to yield the second resultant value.
248
Is the summed value of the first and second resultant values negative?
Y
N
250
Is the change in resultant values greater than a predetermined value?
Y
N
252
Classify the vehicle seat as empty if the summed value is negative and calculated change is greater than the predetermined amount.
254
RETURN

Figure 5

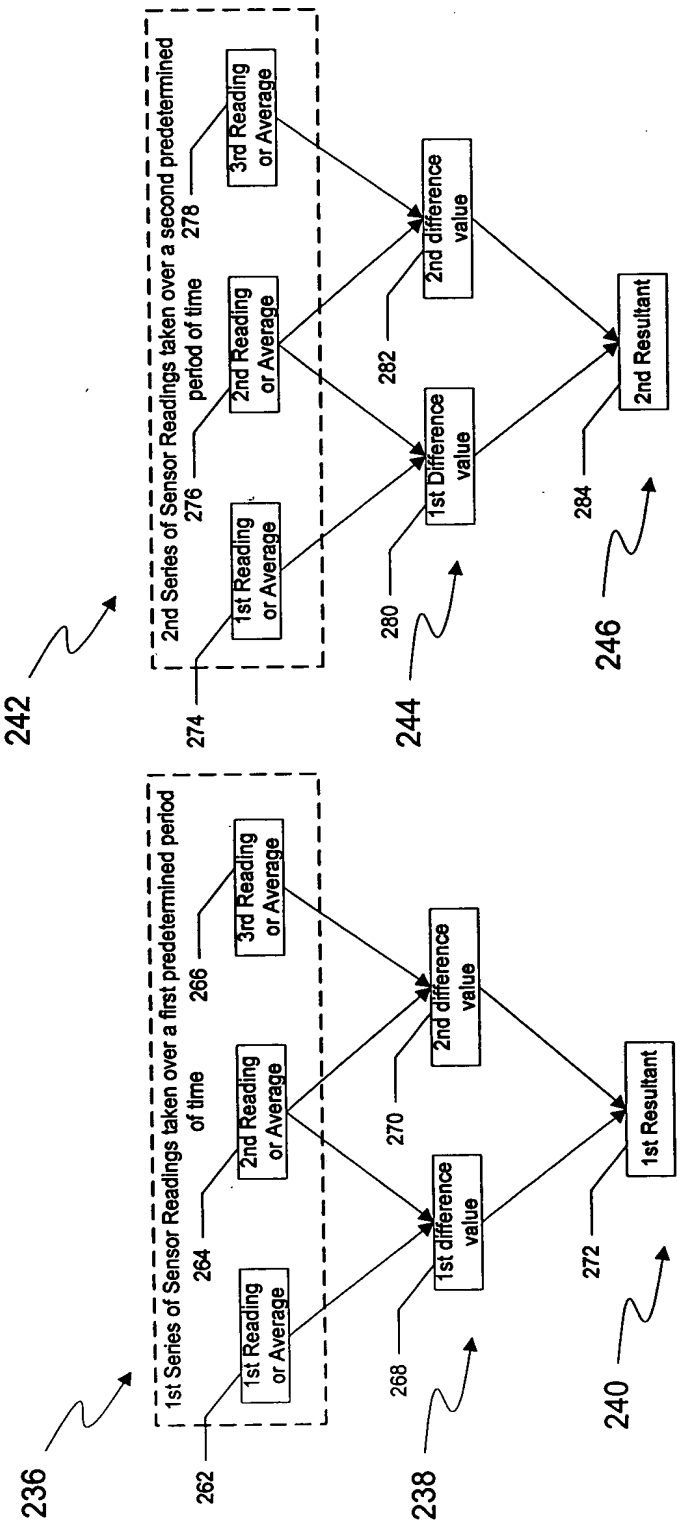
236
1st Series of Sensor Readings taken over a first predetermined period of time
262
1st Reading or Average
264
2nd Reading or Average
266
3rd Reading or Average
238
1st difference value
268
2nd difference value
270
240
1st Resultant
272
242
2nd Series of Sensor Readings taken over a second predetermined period of time
274
1st Reading or Average
276
2nd Reading or Average
278
3rd Reading or Average
244
1st Difference value
280
2nd difference value
282
246
2nd Resultant
284

Figure 6

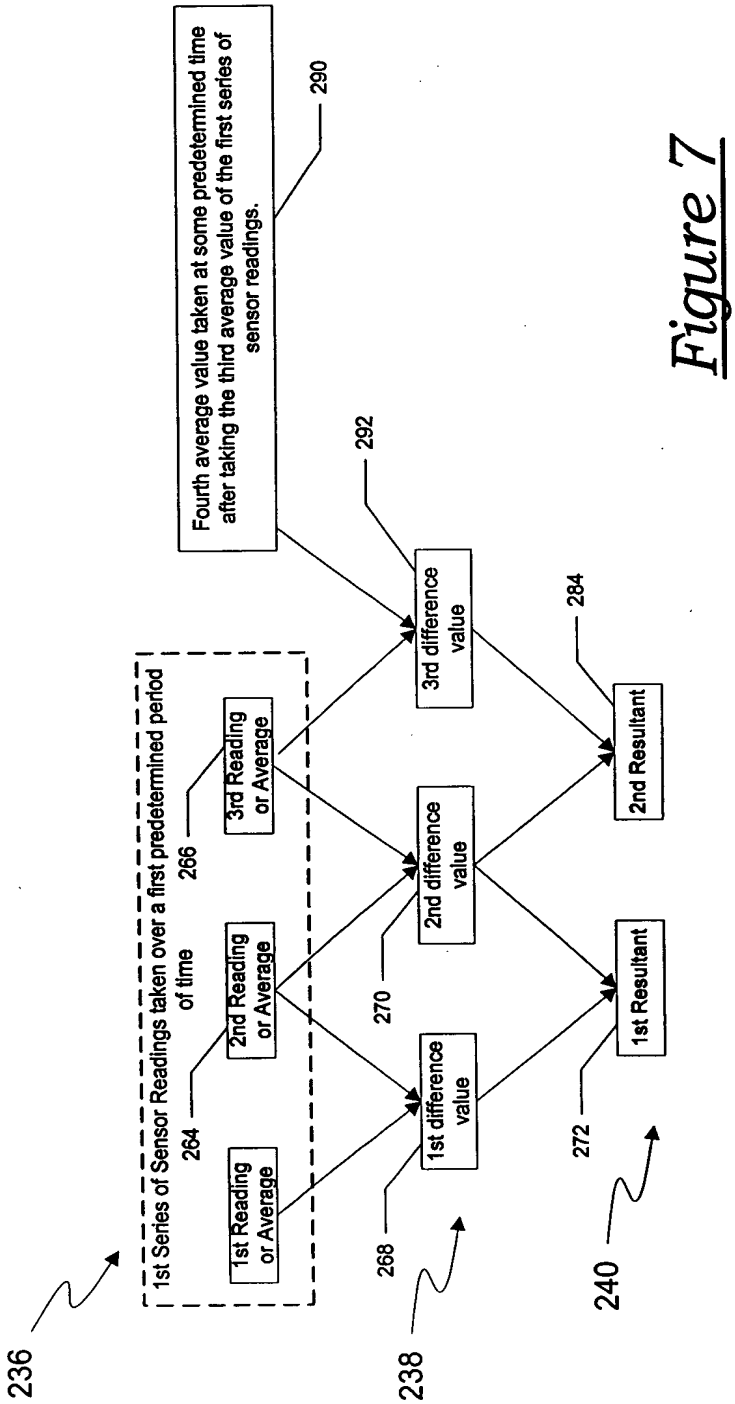
236
1st Series of Sensor Readings taken over a first predetermined period of time
264
266
1st Reading or Average
2nd Reading or Average
3rd Reading or Average
Fourth average value taken at some predetermined time after taking the third average value of the first series of sensor readings.
290
292
1st difference value
2nd difference value
3rd difference value
268
270
272
284
238
240
1st Resultant
2nd Resultant

Figure 7